

**Listing of Claims:**

1. (original) An adhesive or sealant heating composition comprising:
  - a thermal processing agent; and
  - a thermally processable adhesive or sealant, said thermal processing agent being dispersed in or on, coated upon or otherwise associated with said thermally processable adhesive or sealant whereby said thermally processable adhesive or sealant is thermally processed by said thermal processing agent when exposed to an alternating magnetic field and said thermal processing agent comprising:
    - fibers including ferromagnetic material having a permeability greater than 1;
    - said fibers being of a selected composition of one or more ferromagnetic materials; and
    - said fibers having a heating efficiency of greater than 150% of the heating efficiency of 74-420 $\mu$  iron powder in a corresponding alternating magnetic field.
2. (new) An adhesive or sealant heating composition as claimed in claim 1 wherein the heating efficiency of said fibers is greater than 200% of the heating efficiency of 74-420 $\mu$  iron powder.
3. (new) An adhesive or sealant heating composition as claimed in claim 2 wherein the time required to thermally process said adhesive or sealant heating composition is less than 75% of the time required to thermally process an adhesive or sealant heating composition comprising a similar thermally processable adhesive or sealant material and an equivalent weight of a thermal processing agent comprised of 74-420 $\mu$  iron powder, in a corresponding alternating magnetic field.

Serial No. 10/715,913  
Docket No. JOH004N4

4. (new) An adhesive or sealant heating composition as claimed in claim 2 wherein the ferromagnetic material of said fibers is selected from the group consisting of: iron, nickel, cobalt, chromium and their alloys.
5. (new) An adhesive or sealant heating composition as claimed in claim 2 wherein said fibers are selected from the group consisting of: carbon steel fibers and magnetic stainless steel fibers.
6. (new) An adhesive or sealant heating composition as claimed in claim 2 wherein said fibers are selected from the group consisting of: carbon steel wool fibers, magnetic stainless steel wool fibers and nickel wool fibers.
7. (new) An adhesive or sealant heating composition as claimed in claim 2 wherein said fibers are of a selected composition including one or more ferromagnetic materials and are of an average diameter such that, based upon a critical frequency calculation performed by solving the equation  $f_c = 1.6 \times 10^8 \rho / \mu a^2$  where  $\rho$  = resistivity at a selected temperature in °F,  $\mu$  = permeability, and  $a$  = average diameter of the heating agent in inches, said fibers are expected to heat effectively at a first frequency equal to or greater than said critical frequency, but surprisingly and unexpectedly said fibers will heat effectively at a second frequency less than 75% of said critical frequency.
8. (new) An adhesive or sealant heating composition as claimed in claim 7 wherein said fibers will heat effectively at a second frequency that is less than 50% of said critical frequency.
9. (new) An adhesive or sealant heating composition as claimed in claim 7 wherein said fibers will heat effectively at a second frequency that is less than 10% of said critical frequency.

Serial No. 10/715,913  
Docket No. JOH004N4

10. (new) An adhesive or sealant heating composition as claimed in claim 2, wherein said fibers are of a selected composition including one or more ferromagnetic materials; and said fibers have an average electrical diameter less than 3.5 times said fibers reference depth  $d$  which is determined using the equation

$$d = 3160\sqrt{\rho / \mu f}$$

where  $\rho$  = resistivity at a selected temperature in °F,  $\mu$  = permeability, and  $f$  = frequency as calculated for a selected frequency and fiber composition.

11. (new) An adhesive or sealant heating composition as claimed in claim 10, wherein said average electrical diameter of said fibers is less than 2 times said fibers' reference depth.

12. (new) An adhesive or sealant heating composition as claimed in claim 10, wherein said average electrical diameter of said fibers is less than 1.0 times said fibers' reference depth.

13. (new) An adhesive or sealant heating composition as claimed in claim 2, wherein said fibers have average diameters less than 75% of the average or mid particle size range of particles of  $74\text{-}420\mu$  iron powder wherein said mid particle size range is equal to  $((420\mu - 74\mu) / 2) + 74\mu = 247\mu$ .

14. (new) An adhesive or sealant heating composition as claimed in claim 13, wherein said fibers have average diameters less than 25% of the average or mid particle size range of said  $74\text{-}420\mu$  iron powder.

Serial No. 10/715,913  
Docket No. JOH004N4

15. (new) An adhesive or sealant heating composition as claimed in claim 13, wherein said fibers have average diameters less than 10% of the average or mid particle size range of said 74-420 $\mu$  iron powder.
16. (new) An adhesive or sealant heating composition as claimed in claim 2, wherein said apparent density of said fibers is less than 75% of the apparent density of said 74-420 $\mu$  iron powder.
17. (new) An adhesive or sealant heating composition as claimed in claim 16, wherein said apparent density of said fibers is less than 25% of the apparent density of said 74-420 $\mu$  iron powder.
18. (new) An adhesive or sealant heating composition as claimed in claim 16, wherein said apparent density of said fibers is less than 5% of the apparent density of said 74-420 $\mu$  iron powder.
19. (new) An adhesive or sealant heating composition as claimed in claim 2, wherein said heating efficiency of said fibers is greater than 400% of the heating efficiency of said 74-420 $\mu$  iron powder.
20. (new) An adhesive or sealant heating composition as claimed in claim 2, wherein said heating efficiency of said fibers is greater than 1000% of the heating efficiency of said 74-420 $\mu$  iron powder.
21. (new) An adhesive or sealant heating composition as claimed in claim 2, wherein said heating efficiency of said fibers is greater than 1500% of the heating efficiency of said 74-420 $\mu$  iron powder.

22. (new) An adhesive or sealant heating composition as claimed in claim 2, wherein a loading rate of said fibers by weight of said thermally processable adhesive or sealant material with which said adhesive or sealant heating composition is used is less than 75% of a loading rate of particles of powder of a ferromagnetic composition by weight of said thermally processable adhesive or sealant material for a required heating rate.

23. (new) An adhesive or sealant heating composition as claimed in claim 22, wherein a loading rate of said fibers by weight of said thermally processable adhesive or sealant material is less than 50% of a loading rate of said particles of powder of a ferromagnetic composition by weight of said thermally processable adhesive or sealant material for a required heating rate.

24. (new) An adhesive or sealant heating composition as claimed in claim 22, wherein a loading rate of said fibers by weight of said thermally processable adhesive or sealant material is less than 10% of a loading rate of said particles of powder of a ferromagnetic composition by weight of said thermally processable adhesive or sealant material for a required heating rate.

25. (new) An adhesive or sealant heating composition as claimed in claim 3 wherein said time required to thermally process said adhesive or sealant heating composition is less than 25% of the time required to thermally process an adhesive or sealant heating composition comprising a similar thermally processable adhesive or sealant material and an equivalent weight of a thermal processing agent comprised of  $74\text{-}420\mu$  iron powder in a corresponding alternating magnetic field.

26. (new) An adhesive or sealant heating composition as claimed in claim 3 wherein said time required to thermally process said adhesive or sealant heating composition is less than 5% of the time required to thermally process an adhesive or sealant heating

Serial No. 10/715,913  
Docket No. JOH004N4

composition comprising a similar thermally processable adhesive or sealant material and an equivalent weight of a thermal processing agent comprised of 74-420 $\mu$  iron powder in a corresponding alternating magnetic field.

27. (new) An adhesive or sealant heating composition as claimed in claim 2, wherein said fibers are selected from the group consisting of: nickel fibers, ferromagnetic coated electrically conductive fibers and ferromagnetic coated electrically nonconductive fibers.

28. (new) An adhesive or sealant heating composition as claimed in claim 2, wherein said fibers are selected from the group consisting of: rapidly solidified carbon steel fibers, rapidly solidified magnetic stainless steel fibers and rapidly solidified nickel fibers.

29. (new) An adhesive or sealant heating composition as claimed in claim 2, wherein said fibers are selected from the group consisting of: nickel coated electrically conductive fibers, ferrite coated electrically conductive fibers, nickel coated electrically nonconductive fibers and ferrite coated electrically nonconductive fibers.

30. (new) An adhesive or sealant heating composition as claimed in claim 2, wherein said fibers are selected from the group consisting of: drawn carbon steel fibers and drawn magnetic stainless steel fibers.

31. (new) An adhesive or sealant heating composition as claimed in claim 2 wherein said fibers have lengths selected from the group consisting of continuous lengths, semicontinuous lengths and discontinuous lengths.

Serial No. 10/715,913  
Docket No. JOH004N4

32. (new) An adhesive or sealant heating composition as claimed in claim 2 wherein said fibers have lengths selected from the group consisting of continuous lengths and semicontinuous lengths.
33. (new) An adhesive or sealant heating composition as claimed in claim 2 wherein said fibers have discontinuous lengths.
34. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said fibers take the form of groupings of fibers.
35. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said fibers are incorporated in said thermally processable adhesive or sealant material.
36. (new) An adhesive or sealant heating composition as claimed in claim 32 wherein said fibers are incorporated in said thermally processable adhesive or sealant material.
37. (new) An adhesive or sealant heating composition as claimed in claim 33 wherein said fibers are incorporated in said thermally processable adhesive or sealant material.
38. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said fibers are incorporated in or on a substrate in thermal proximity to said thermally processable adhesive or sealant material.
39. (new) An adhesive or sealant heating composition as claimed in claim 32 wherein said fibers are incorporated in or on a substrate in thermal proximity to said thermally processable adhesive or sealant material.

Serial No. 10/715,913  
Docket No. JOH004N4

40. (new) An adhesive or sealant heating composition as claimed in claim 33 wherein said fibers are incorporated in or on a substrate in thermal proximity to said thermally processable adhesive or sealant material.

41. (new) An adhesive or sealant heating composition as claimed in claim 38 wherein said substrate in thermal proximity to said thermally processable adhesive or sealant material includes supporting means or reinforcing means.

42. (new) An adhesive or sealant heating composition as claimed in claim 38 wherein two or more surfaces of said substrate are in thermal proximity with a similar thermally processable adhesive or sealant material.

43. (new) An adhesive or sealant heating composition as claimed in claim 38 wherein two or more surfaces of said substrate are in thermal proximity with dissimilar thermally processable adhesive or sealant materials.

44. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said fibers are coated by or layered with said thermally processable adhesive or sealant material.

45. (new) An adhesive or sealant heating composition as claimed in claim 32 wherein said fibers are coated by or layered with said thermally processable adhesive or sealant material.

46. (new) An adhesive or sealant heating composition as claimed in claim 33 wherein said fibers are coated by or layered with said thermally processable adhesive or sealant material.

Serial No. 10/715,913  
Docket No. JOH004N4

47. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said fibers are dispersed on or under said thermally processable adhesive or sealant material.

48. (new) An adhesive or sealant heating composition as claimed in claim 32 wherein said fibers are dispersed on or under said thermally processable adhesive or sealant material.

49. (new) An adhesive or sealant heating composition as claimed in claim 33 wherein said fibers are dispersed on or under said thermally processable adhesive or sealant material.

50. (new) An adhesive or sealant heating composition as claimed in claim 47 wherein said fibers are unattached to said thermally processable adhesive or sealant material.

51. (new) An adhesive or sealant heating composition as claimed in claim 47 wherein said fibers are transiently attached to said thermally processable adhesive or sealant material.

52. (new) An adhesive or sealant heating composition as claimed in claim 47 wherein said fibers are permanently attached to said thermally processable adhesive or sealant material.

53. (new) An adhesive or sealant heating composition as claimed in claim 47 wherein said fibers have a substantially even distribution on or under said thermally processable adhesive or sealant material.

54. (new) An adhesive or sealant heating composition as claimed in claim 47 wherein said fibers have a predetermined concentration and distribution on or under said thermally processable adhesive or sealant material.

55. (new) An adhesive or sealant heating composition as claimed in claim 31 further including physical characteristic enhancing means for improving the physical characteristics of said adhesive or sealant heating composition.

56. (new) An adhesive or sealant heating composition as claimed in claim 55 wherein said physical characteristic enhancing means includes strengthening means for increasing tensile strength, flexural strength, impact strength or a combination thereof.

57. (new) An adhesive or sealant heating composition as claimed in claim 56 wherein said strengthening means includes reinforcing fibers.

58. (new) An adhesive or sealant heating composition as claimed in claim 55 wherein said physical character enhancing means includes a physical character enhancing means selected from the group consisting of organic and inorganic fillers.

59. (new) An adhesive or sealant heating composition as claimed in claim 58 wherein said organic and inorganic fillers are coated with ferromagnetic materials, whereby they contribute to the heating of said adhesive or sealant heating composition in said alternating magnetic field.

60. (new) An adhesive or sealant heating composition as claimed in claim 55 wherein said physical characteristic enhancing means includes physical characteristic enhancing means selected from the group consisting of flame retardance, smoke retardance, impact resistance, foaming and conductivity.

Serial No. 10/715,913  
Docket No. JOH004N4

61. (new) An adhesive or sealant heating composition as claimed in claim 31 further including thickness regulation means for regulating the thickness of said adhesive or sealant heating composition.

62. (new) An adhesive or sealant heating composition as claimed in claim 61 wherein said thickness regulation means is selected from the group consisting of inorganic particles, organic particles, ferromagnetic particles, ferromagnetic coated organic particles and ferromagnetic coated inorganic particles.

63. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said adhesive or sealant heating composition is thermally processed by at predetermined rates and/or to predetermined degrees.

64. (new) An adhesive or sealant heating composition as claimed in claim 63 wherein said predetermined thermal processing rate has a given initial rate and one or more subsequent rates.

65. (new) An adhesive or sealant heating composition as claimed in claim 63 wherein said adhesive or sealant heating composition is approximately fully processed.

66. (new) An adhesive or sealant heating composition as claimed in claim 63 wherein said adhesive or sealant heating composition is partially thermally processed.

67. (new) An adhesive or sealant heating composition as claimed in claim 66 wherein said adhesive or sealant heating composition is partially processed to a point where completion of the processing of said adhesive or sealant composition does not require additional heating by said fibers.

Serial No. 10/715,913  
Docket No. JOH004N4

68. (new) An adhesive or sealant heating composition as claimed in claim 66 wherein said adhesive or sealant heating composition is partially processed, allowing for additional production steps and subsequent thermal processing.

69. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said fibers are adjacent to said thermally processable adhesive or sealant material.

70. (new) An adhesive or sealant heating composition as claimed in claim 32 wherein said fibers are adjacent to said thermally processable adhesive or sealant material.

71. (new) An adhesive or sealant heating composition as claimed in claim 33 wherein said fibers are adjacent to said thermally processable adhesive or sealant material.

72. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said thermally processable adhesive or sealant material is a liquid or a paste.

73. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said thermally processable adhesive or sealant material is a solid.

74. (new) An adhesive or sealant heating composition as claimed in claim 73 wherein said thermally processable adhesive or sealant material is semi-contiguous selected from a group consisting of a: film, sheet, strip, strand, mat, ring or gasket.

75. (new) An adhesive or sealant heating composition as claimed in claim 73 wherein said thermally processable adhesive or sealant material is dis-contiguous selected from a group consisting of: granules, pellets, blocks, tablets or chips.

Serial No. 10/715,913  
Docket No. JOH004N4

76. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said thermally processable adhesive or sealant material is a thermoplastic.
77. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said thermally processable adhesive or sealant material is a thermoset.
78. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said thermally processable adhesive or sealant material is a thermoplastic B thermoset.
79. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said thermally processable adhesive or sealant material is a hotmelt.
80. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said thermally processable adhesive or sealant material is an evaporation or diffusion adhesive or sealant.
81. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said thermally processable adhesive or sealant material is a chemically reactive adhesive or sealant.
82. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said thermally processable adhesive or sealant material is a delayed tack adhesive or sealant.
83. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said thermally processable adhesive or sealant material is a conductive adhesive or sealant.

84. (new) An adhesive or sealant heating composition as claimed in claim 31 wherein said thermally processable adhesive or sealant material can be associated with one or more substrates and subsequently reheated for assembly or disassembly.

85. (new) A method for thermally processing an adhesive or sealant heating composition, said method comprising the steps of:

providing an adhesive or sealant heating composition comprising:

a thermal processing agent; and

a thermally processable adhesive or sealant material, said thermal processing agent formed as fibers comprising ferromagnetic material having a magnetic permeability greater than 1 and said thermal processing agent being dispersed in or on, coated upon or otherwise associated with said thermally processable adhesive or sealant material;

placing said adhesive or sealant heating composition adjacent to a coil; and

energizing said coil to generate an alternating magnetic field, wherein heat is generated in said thermal processing agent to heat said adhesive or sealant heating composition at heating efficiencies greater than 150% of the heating efficiency of a thermal processing agent comprised of  $74\text{-}420\mu$  iron powder, in a corresponding alternating magnetic field.

86. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 85 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers in which heat is generated to thermally process said adhesive or sealant heating composition at heating efficiencies greater than 200% of the heating efficiency of a thermal processing agent formed as  $74\text{-}420\mu$  iron powder in a corresponding alternating magnetic field.

87. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 85 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers in which heat is generated to thermally process said adhesive or sealant heating composition at heating efficiencies greater than 600% of the heating efficiency of a thermal processing agent formed as  $74\text{-}420\mu$  iron powder in a corresponding alternating magnetic field.

88. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 85 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers in which heat is generated to thermally process said adhesive or sealant heating compositions at heating efficiencies greater than 1500% of the heating efficiency of a thermal processing agent formed as  $74\text{-}420\mu$  iron powder in a corresponding alternating magnetic field.

89. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers selected from the group consisting of: carbon steel fibers and magnetic stainless steel fibers.

90. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers selected

from the group consisting of: carbon steel wool fibers, magnetic stainless steel wool fibers and nickel wool fibers.

91. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers with a calculated critical frequency determined by solving the equation  $f_c = 1.6 \times 10^8 \rho / \mu a^2$  where  $\rho$  = resistivity at a selected temperature in °F,  $\mu$  = permeability, and  $a$  = average diameter of the thermal processing agent in inches, above which said fibers will heat efficiently; and said step of energizing said coil to generate an alternating magnetic field comprises the step of energizing said coil to generate a magnetic field alternating at a frequency which is less than 75% of said critical frequency.

92. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 91 wherein said step of energizing said coil comprises energizing said coil to generate a magnetic field alternating at a frequency which is less than 20% of said critical frequency.

93. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers with computed reference depth  $d$  for said ferromagnetic material at a given frequency which reference depth is determined using the equation

$$d = 3160 \sqrt{\rho / \mu f}$$

where  $\rho$  = resistivity at a selected temperature in °F,  $\mu$  = permeability, and

*f* = frequency for said ferromagnetic material at a given frequency; and further comprising the steps of:

calculating an electrical diameter at which said fibers would heat effectively at said frequency as greater than four times said reference depth;

placing said adhesive or sealant heating composition comprised of said thermally processable adhesive or sealant material and said thermal processing agent, selected from fibers of an average electrical diameter less than 3.5 times said calculated reference depth, adjacent to a coil; and

energizing said coil to generate a magnetic field alternating at said frequency.

94. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 93 further comprising the step of selecting fibers of an average electrical diameter less than 1.0 times said calculated reference depth.

95. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers having average diameters less than 75% of the average or mid particle size range of particles of  $74-420\mu$  iron powder wherein said mid particle size range is equal to  $((420\mu-74\mu)/2)+74\mu=247\mu$ .

96. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 95 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers having average diameters less than 20% of the average or mid particle size range of particles of  $74-420\mu$  iron powder.

97. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition further comprises the step of associating said fibers at a given proportion by weight of said thermally processable adhesive or sealant material, required for a given heating rate, wherein said proportion of fibers by weight of said thermally processable adhesive or sealant material is less than 75% of a given proportion of  $74\text{-}420\mu$  iron powder by weight of said thermally processable adhesive or sealant material, required for the same or similar heating rate.

98. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 97 wherein said step of providing an adhesive or sealant heating composition further comprises the step of associating said fibers at a given proportion by weight of said thermally processable adhesive or sealant material, required for a given heating rate, wherein said proportion of fibers by weight of said thermally processable adhesive or sealant material is less than 50% of a given proportion of  $74\text{-}420\mu$  iron powder by weight of said thermally processable adhesive or sealant material, required for the same or similar heating rate.

99. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 97 wherein said step of providing an adhesive or sealant heating composition further comprises the step of associating said fibers at a given proportion by weight of said thermally processable adhesive or sealant material, required for a given heating rate, wherein said proportion of fibers by weight of said thermally processable adhesive or sealant material is less than 10% of a given proportion of  $74\text{-}420\mu$  iron powder by weight of said thermally processable adhesive or sealant material, required for the same or similar heating rate.

100. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers wherein said apparent density of said fibers is less than 75% of the apparent density of said 74-420 $\mu$  iron powder.

101. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 100 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers wherein said apparent density of said fibers is less than 10% of the apparent density of said 74-420 $\mu$  iron powder.

102. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers selected from the group consisting of: nickel fibers, ferromagnetic coated electrically conductive fibers and ferromagnetic coated electrically nonconductive fibers.

103. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers selected from the group consisting of: rapidly solidified carbon steel fibers, rapidly solidified magnetic stainless steel fibers and rapidly solidified nickel fibers.

104. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers selected from the group consisting of: nickel coated electrically conductive fibers, ferrite coated electrically conductive fibers, nickel coated electrically nonconductive fibers and ferrite coated electrically nonconductive fibers.

105. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers selected from the group consisting of: drawn carbon steel fibers and drawn magnetic stainless steel fibers.

106. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers having lengths selected from the group consisting of continuous lengths, semicontinuous lengths and discontinuous lengths.

107. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers having lengths selected from the group consisting of continuous lengths and semicontinuous lengths.

Serial No. 10/715,913  
Docket No. JOH004N4

108. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of fibers having discontinuous lengths.
109. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processing agent of said adhesive or sealant heating composition in the form of groupings of fibers.
110. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 further comprising the step of incorporating said fibers in said thermally processable adhesive or sealant material.
111. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 further comprising the step of incorporating said fibers in or on a substrate in thermal proximity to said thermally processable adhesive or sealant material.
112. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 111 further comprising the step of providing said substrate including reinforcing fibers.
113. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 111 further comprising the step of associating two or more surfaces of said substrate with a similar thermally processable adhesive or sealant material.

114. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 111 further comprising the step of associating two or more surfaces of said substrate with dissimilar thermally processable adhesive or sealant materials.

115. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 further comprising the step of coating said fibers with or layering said fibers with said thermally processable adhesive or sealant material.

116. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 further comprising the step of dispersing said fibers on or under said thermally processable adhesive or sealant material.

117. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 116 wherein said fibers are unattached to said thermally processable adhesive or sealant material.

118. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 116 further comprising the step of transiently attaching said fibers to said thermally processable adhesive or sealant material.

119. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 116 further comprising the step of permanently attaching said fibers to said thermally processable adhesive or sealant material.

120. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 116 further comprising the step of substantially evenly distributing said fibers on said thermally processable adhesive or sealant material.

121. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 116 further comprising the step of distributing said fibers on said thermally processable adhesive or sealant material in predetermined areas and concentrations.

122. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 further comprising the step of providing additives to enhance the physical characteristics of said adhesive or sealant heating composition.

123. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 122 wherein said step of providing additives to enhance the physical characteristics of said adhesive or sealant heating composition comprises the step of selecting additives to enhance the physical strength of said adhesive or sealant heating composition, whereby tensile strength, flexural strength, impact strength or a combination thereof are increased.

124. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 123 further comprising the step of providing said additives in the form of reinforcing fibers.

125. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 122 wherein said step of providing additives to enhance the physical characteristics of said adhesive or sealant heating composition further comprises the step of selecting additives to enhance a physical characteristic selected from the group consisting of flame retardance, smoke retardance, impact resistance, foaming and conductivity.

126. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 122 further comprising the step of providing a thickness regulation means for regulating the thickness of said adhesive or sealant heating composition.

127. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 86 further comprising the step of thermally processing said thermally processable adhesive or sealant at predetermined rates and/or to predetermined degrees.

128. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 127 further comprising the step of thermally processing said thermally processable adhesive or sealant at a given initial rate and thereafter at one or more subsequent rates.

129. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 127 further comprising the step of thermally processing said thermally processable adhesive or sealant until it is approximately fully thermally processed.

130. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 127 further comprising the step of thermally processing said thermally processable adhesive or sealant until it is partially thermally processed.

131. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 130 further comprising the step of thermally

Serial No. 10/715,913  
Docket No. JOH004N4

processing said thermally processable adhesive or sealant until it is partially thermally processed to a point that may not require additional heating by said fibers.

132. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 130 further comprising the steps of:

limiting the thermal processing of said thermally processable adhesive or sealant material to a predetermined degree resulting in a partially processed adhesive or sealant composition;

incorporating said partially processed adhesive or sealant composition in a subsequent operation; and

thermally processing said partially processed adhesive or sealant composition, with or without additional thermally processable adhesive or sealant material, in an alternating magnetic field or by other thermal processing means.

133. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 further comprising the step of locating said fibers adjacent to said thermally processable adhesive or sealant material.

134. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processable adhesive or sealant material in the form of a liquid or a paste.

135. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processable adhesive or sealant material in the form of a solid.

Serial No. 10/715,913  
Docket No. JOH004N4

136. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 135 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processable adhesive or sealant material in said solid form selected from a group consisting of a: film, sheet, strip, strand, mat, ring or gasket.

137. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 135 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processable adhesive or sealant material in said solid form selected from a group consisting of: granules, pellets, blocks, tablets or chips.

138. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processable adhesive or sealant material in the form of a thermoplastic.

139. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processable adhesive or sealant material in the form of a thermoset.

140. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processable adhesive or sealant material in the form of a thermoplastic - thermoset.

141. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processable adhesive or sealant material in the form of a hotmelt.

142. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processable adhesive or sealant material in the form of an evaporation or diffusion adhesive or sealant.

143. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processable adhesive or sealant material in the form of a chemically reactive adhesive or sealant.

144. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processable adhesive or sealant material in the form of a delayed tack adhesive or sealant.

145. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 106 wherein said step of providing an adhesive or sealant heating composition comprises the step of providing said thermal processable adhesive or sealant material in the form of a conductive adhesive or sealant.

146. (new) A method for thermally processing an adhesive or sealant heating composition, as claimed in claim 128 further comprising the steps of:

Serial No. 10/715,913  
Docket No. JOH004N4

associating said thermally processable adhesive or sealant material with one or more substrates; and

reheating said adhesive or sealant composition for subsequent assembly or disassembly.